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AUTHOR STREVEENS, PETER
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ABSTRACT
A COST-EFFECTIVENESS STUDY IN THE TEACHING OF
FOREIGN LANGUAGES WOULD, IF IMPLEMENTED, AIM TO DETERMINE THE RESULTS
OF COST-EFFECTIVENESS BY THE INTRODUCTION OF NEW AIMS, METHODS, AND
EQUIPMENT; TO ESTIMATE THE EFFICACY OF EXISTING RESOURCES; AND TO
EXAMINE ANY OTHER MEANS BY WHICH PRODUCTIVITY PER STUDENT-COST COULD
BE IMPROVED. THE FOLLOWING CONCEPTS, RELATED TO COST-EFFECTIVENESS,
ARE STUDIED IN THIS PAPER: OBSERVABLE CHANGE, COSTS, BENEFITS,
SYSTEM, CAPITAL AND OTHER EXPENDITURES, VALUE, WASTAGE, PRODUCTIVITY,
TERMINAL STANDARDS, PROGRAMED LEARNING, AND PRODUCT VALUE CHANGE
ASSESSMENT. CAUSAL RELATIONSHIPS AND AREAS FOR SYSTEMS IMPROVEMENT
ARE STRESSED. THE AUTHOR SUGGESTS THAT SUCH A STUDY WOULD ADVANCE THE
GOALS OF APPLIED LINGUISTICS. (R1)

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WHERE HAS ALL THE MONEY GONE?
THE NEED FOR COST-EFFECTIVENESS STUDIES IN THE TEACHING
OF FOREIGN LANGUAGES

Peter Strevens

1. Behind the term 'applied linguistics', both as it is used in this Conference and as it was used at the First International Congress on Applied Linguistics at Nancy in 1964, is a general agreement that the study and teaching of languages can benefit in important ways from the rigorous theoretical approach of modern studies in linguistics, in psychology and in learning theory, as well as from the results of recent and current research in these disciplines. It is agreed, too, that the best of instructional procedures, the methodology of teaching (or, if you prefer, techniques for facilitating learning) continue to be central to language teaching; and that these techniques can be very greatly improved by the use of appropriate aids and equipment, which range from the gramophone through language laboratories and closed-circuit television to computer-assisted learning.
2. Until some eight years ago the teaching of foreign languages was a 'chalk and talk' profession, in which the only necessary expenditure was on a teacher and a textbook --- i.e. the minimum expense, below which organised instruction barely exists. Nowadays foreign language teaching is accepted as being a profession in which large and increasing sums of money (mostly public money, we should notice) are spent on aids and equipment: especially but not exclusively on language laboratories, on which alone it is estimated that over a million pounds has been spent in Britain in the past five years.
3. These very large extra costs are facts, even if the precise amounts are not known. What observable changes have occurred in the output of the system --- i.e. in the foreign language achievement of the boys, girls and adults who have been taught --- which can be plausibly attributed to this additional expenditure? Is there in fact any change? If so, how can it be measured? What monetary value can be put upon it? Does the present system of examinations, canonised long before this expenditure was contemplated, provide a useful index of changes in output? If not, should not some alternative assessment be devised, so that some kind of feedback exists from the learners, who are the output of the system, to the teachers and others who operate it?

4. A profession which values rigour in its outlook should ask such questions: but even if it does not they are likely to be asked from outside the profession. Already administrators are beginning to ask questions which seem to them necessary in order to justify the now sizeable expenditure on aids and equipment for language teaching. This money has to compete with many other claims. There are signs already that the honeymoon is over: where once claims were met with little demur (or even where teachers found language labs thrust upon them by administrative decision, regardless of whether their teaching situation warranted it) now such questions are being asked as this: 'What value can be placed on the improved results of language teaching using aids and equipment, to set against the money you have spent?'

5. There are at least four obvious replies to such questions.

(i) The techniques of cost-effectiveness analysis have never been applied by economists to language teaching, so that no factual answer is available;

(ii) the aims of language teaching are rapidly changing, and consequently the end-product of the system is changing, so that there is no firm basis for comparison and evaluation;

(iii) the use of aids and equipment is part of the 'style of learning' of the nineteen-sixties and seventies: the customers and their parents expect them to be used, and if they are not the institution concerned suffers a drop in recruitment, a loss of reputation, a reduction of confidence ('I shouldn't send Johnnie to that school — they haven't even got a language lab') so that in this sense the need for expenditure on equipment is determined by criteria unrelated to the effectiveness of teaching;

(iv) the long-term effects of the new-style teaching can be expected to improve both the standards of the pupils and the expectations of the public, thus rendering such bureaucratic questions unnecessary!

6. But of course these replies are quite inadequate. If cost-effectiveness studies have not been done yet they should be commissioned now; techniques do exist for evaluating changes in aims and standards; the expectations of the pupils and the public do not alter the fact that massive expenditure has actually taken place; the probable long-term effects are no excuse for not examining the current situation. Sophisticated techniques and procedures for such studies already exist within the discipline of economics; all that an applied linguist can do is to indicate a few of the main lines along which such a study might proceed.

7. A study of cost-effectiveness entails the analysis of the costs arising from various decisions, in relation to the benefits resulting from these decisions. To do this it becomes essential to know what is included under the heading of costs and what under benefits, and the degree of causality between them.

8. Studies of this kind are of course studies of a system. There is little to be gained from attempting such studies at the level of a single school, college or university department. What is being attempted is the measurement and quantification of those changes in the output of the system which can be attributed to expenditure on particular parts of the system. It is essential to take account of all relevant parts of the system. Thus it is not simply the cost of purchasing language labs that has to be considered, but also the cost of such other factors as: giving further training to teachers; the adaptation of classrooms; the monopolising of a large classroom by a single subject; the employment of lab stewards or technicians; the time spent by teaching staff on the preparation of materials; and a great many others.

9. Costs include (a) sums of money expended as the result of a particular decision, and (b) any reduction in benefits that may accrue. Taking expenditure first, these may involve at least three kinds of expenditure:

(i) capital expenditure on aids and equipment and possibly on accommodation to house them, not forgetting charges for interest, depreciation and provision for replacement, items which between them can very considerably inflate an apparently modest capital outlay;

(ii) recurrent expenditure, including the salaries of any teachers who would otherwise not be employed, the cost of any special courses introduced in the initial training of teachers, the cost of vacation courses or other in-service training, the running costs of equipment, costs of maintenance, the wages of technicians, the cost of special books or software in connection with the proper running of the equipment, etc.;

and (iii), expenditure on research and development where this is directly related to the introduction and use of new aids and equipment.

(Here it is arguable that some at least of such expenditure should not be allocated against costs but should be separately charged.)

10. The negative aspect of costs, namely reduction in benefits, might conceivably include the case where a highly-paid teacher makes a considerable

reduction in his classroom teaching time when he takes over responsibility for organising a large language lab installation: cost-effectiveness studies might well indicate whether or not it would be cheaper to employ additional, lower-paid supervisory staff in order to avoid the loss of the expensive services of a specialist teacher.

11. Benefits have at least two aspects: improvements in the value of the end-product of the system, and reductions in real costs. The first of these, improvements in the value of the end-product, it is difficult to set a monetary figure on, but it represents nevertheless an important component of the system. For instance, if a given force of teachers customarily processes up to the average level of competence 1000 pupils in five years, and if after the expenditure of £100,000 on aids, equipment and supporting costs the same force of teachers in the subsequent five years turns out 1200 pupils, that represents an improvement of some 20% in the value of the end-product. But most of the effects of expenditure on aids and equipment is likely to be less clear-cut, and to centre on changes in the quality of the product, and therefore on changes in its value. The remark 'Johnny speaks better French than his older brother did' may in fact point to a basis for an assessment, as long as a plausible figure for the value of Johnny's French in comparison with that of his brother (say, a 15% improvement) can be postulated to represent the real improvement in the product. The other aspect of benefits, namely the reduction of costs, occurs if a given target is reached in fewer hours of teaching, for example; it can also occur if it can be shown that some of the time previously spent in 'learning' was concerned with irrelevancies, so that former waste of time is now reduced; or if the same number of pupils is processed by a smaller and cheaper teaching force.

12. A cost-effectiveness analysis need not be concerned solely with the costs and benefits of specific decisions or particular kinds of expenditure. It can and perhaps should be used to answer also the other obvious administrator's questions, as to whether the existing financial investment in language teaching is giving maximum benefits, and whether better use could not be made of our existing resources.

13. An investigation of this aspect of our operations would be likely to give rise to doubts on two counts: first, on whether more could not be done to reduce wastage, and second, on whether we could not increase our productivity per unit cost. We are open to considerable criticism over the question of wastage in language teaching. Let us take two examples.

Large numbers of pupils still fail language exams at O-level and thereafter take their language studies no further. If one regards the monetary value of the level of achievement represented by a Fail at O-level as being effectively equal to zero, then every year a sizeable percentage of the total products of the school language teaching system, upon whom hundreds of hours of expensive teaching have been expended, have to be written off. Many people would extend this very low value to include also those who achieve a bare Pass at O-level, in which case the wastage rate at the end of the biggest single production stage of the system might be regarded as disturbingly high. The second example is less obvious, but still may warrant some thought. It is common in some university departments of modern languages to admit to a first year of studies a very large number of students, but to fail a high percentage of them at the end of the first year. In their case, too, they may be regarded as wastage in terms of the productivity of the system, since much expensive labour has been allocated to teaching many students who do not become adequately-valued products of the system, while the value of the labour applied to teaching those who will be successful has been diluted by the presence of the future drop-outs. Since entry requirements to these courses are already very high, the case is not on all fours with that of the O-level failures. In particular it may be argued that A-level exam results do not identify the top x% of entrants, who alone are the ones capable of taking an honours degree, and that therefore the first year acts as a necessary filter. This may be true, or it may be that better selection procedures could be devised and operated at lower cost and therefore with benefit to the department concerned and the system as a whole. Clearly there is much to be investigated in the profession, in terms of wastage. It could well emerge that we would be wise to divert some money and effort to the improvement of selection procedures for entry to language courses at various levels, to the avoidance of a high drop-out rate, to the improvement of motivation among those who start language courses, and perhaps above all to avoiding the situation where the terminal standard reached by a sizeable proportion of learners is generally felt to be of virtually no value.

14. Increasing our productivity per unit cost entails asking whether the training of teachers is adequately geared to the changing aims and techniques of the profession; whether teachers once trained are made use of in the most effective way; whether the syllabuses, textbooks and other course materials are geared to aims and techniques appropriate to the equipment which has been purchased (or whether perhaps there may not be in some places language labs acting as façades for continuing the grammar-grind); whether the evaluation

procedures --- the examinations --- determine the teaching, and if so, whether the examinations are appropriate to teaching as best carried out using aids and equipment. It is widely agreed that these kinds of 'impedance mis-match' --- between aims and materials, and between methods and exams --- are economically wasteful and therefore constitute a point where improvements in productivity might be made.

15. In other sectors of education where cost-effectiveness studies have been attempted it has been suggested that the unit costs per student are dramatically reduced once full use is made of the techniques of programmed learning. This is an area where relatively little progress has been made in foreign language teaching, although there are a number of American programmes, chiefly in the field of pronunciation teaching. There are good reasons for the slow rate of progress: learning languages turns out to entail a number of different kinds of learning and many different kinds of practice; for most of them, the only suitable monitoring device seems to be the trained teacher. Nevertheless there are surely some points within the total system where the introduction of programmed learning could be attempted. One thinks, for example of the remarkable programmed, self-instructional Teacher Education Program of English Language Services, designed to train overseas students how to teach, and how to teach an English course. The degree of success of the prototype suggests that here is one point, teacher training, where substantial savings might be made by the introduction of programmed learning. There are almost certainly several others.

16. One of the most difficult areas of any cost-effectiveness study is likely to be the assessment of the change in value of the products of the system as a result of changes in aims. Suppose the aim of teaching language L at school, for example, is that those successful at A-level should be well-versed in the literature of language L, with only 10% or less of their total assessment allocated to an evaluation of their command of the spoken language. A successful pupil might be assessed at a value to the system of 100. Now suppose the aims change, and command of the spoken language becomes very much more important, and suppose this change is in fact reflected in the teaching. What is now the value of the successful A-level pupil? Perhaps in the ideal case we might assess him at 125. But if the examination remains unchanged, how do we know how far the pupil satisfies the new aims? An examination cannot simultaneously and equally well assess pupils in relation to two different sets of criteria.

The question is raised here not in order to provide an answer but in order to suggest that out of a cost-effectiveness study there may come observations with painful or unwelcome consequences for the present system, and especially for our system of examinations.

17. A study of cost-effectiveness in the teaching of foreign languages (which one hopes would include English as a foreign language) is urgently needed. Given the present level of total expenditure on language teaching over the world as a whole, which must run at scores of millions of pounds per year, an overall gain of even a fraction of one per cent would be a sizeable advance. A study would have to be a joint enterprise, with specialists in economics working beside others widely experienced in the language teaching profession. The aims of such a study might be two in number: (1) to determine the results in terms of cost-effectiveness of the introduction of new aims, methods and equipment in the teaching of foreign languages; and (2) to enquire into the extent to which existing resources are effectively deployed and into any means by which productivity per student cost in foreign language teaching could be improved. If the profession can set up a study of this kind, it would be justifying in respect of its own operations the insistence upon rigour which is one of the major features of applied linguistics.

University of Essex
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